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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2628	

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/826,973	NILES ET AL.	
	Examiner	**Art Unit**	
	Jason M. Repko	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-20,71,74-81,83 and 84* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-20,71,74-81,83 and 84* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 7, 9-11, 13, 15, 16, 19, 20, 71, and 74, 75, 77, 78 rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0036711 to Anderson.

3. With regard to claim 1, Anderson discloses "in a computer-implemented animation system (*Figure 7*), a method for animating an object (*paragraph [0008]: "The computer can then determine the changes in the object's representation in subsequent frames of the animation from the applied vector and the object's vector response characteristic. The combination of all the changes in the representations of objects allows the computer to determine all the frames in the animation."*) the method comprising:

a. receiving a first input, the first input specifying a first parameter behavior, the first parameter behavior indicating how to change a value of a first parameter over time, wherein the first parameter is associated with one element of a group consisting of a motion behavior applied to the object, a filter applied to the object, and a generator applied to the object; (*paragraph [0008]: "Vectors can be assigned by rule, e.g.,*

gravitational effects, wave motion, and motion boundaries. The user can supply additional vectors to refine the animated motion or behavior"; paragraph [0060]: "The interface acquires a force, e.g., magnitude and direction applied to an input device, indicating a desired change in the object's state 802."; paragraph [0039]: (emphasis added): As another example, consider a vector field defined to be directed upward, with <u>*magnitude varying in time*</u> *and space from a positive extreme to a negative extreme*);

b. animating the object by changing the value of the first parameter over time according to the specified <u>parameter</u> behavior (*paragraph [035]: "An object X3 has a vector V3 applied in the first image I301. Object X3 moves rightward in response to the vector V3, as shown in images I302, I303."*);

c. and outputting the animated object" (*paragraph [061]: "After the user interaction is complete, the graphics iteration 810 can be used to generate the final animation visual sequence."; 811 of Figure 8*).

4. With regard to claim 2, Anderson discloses, "the object comprises a two-dimensional object" (*figure 3 shows a 2D object*).

5. With regard to claim 4, Anderson discloses "receiving a second input, the second input specifying a second <u>parameter</u> behavior, the second <u>parameter</u> behavior indicating how to change a value of a second parameter over time, and wherein animating the object further comprises changing the value of the second parameter according to the second specified <u>parameter</u> behavior" (*paragraph [0054]: "Suppose that the overall effect is still not exactly what the user desired--the user wants the bunny to lean forward as it hops. The user can push on the bunny's back, not affecting the hopping or leg motion, but causing the bunny to lean forward slightly*

while it hops. "). One of ordinary skill in the art would recognize that the vector input is specified by the user input from the statement in paragraph 43 (*"A user can be provided with interface control of how vectors are applied to objects or groups of objects, e.g., a vector can be applied to a hand, or wrist, or arm, depending on a specification of the user.* ") and paragraph 60 (*"The interface acquires a force, e.g., magnitude and direction applied to an input device, indicating a desired change in the object's state 802.* ").

6. With regard to claim 7, Anderson discloses "<u>first behavior is associated with the motion behavior applied to the object, and wherein the motion behavior</u> comprises one from a group consisting of: a Fade In/Fade Out behavior; a Grow/Shrink behavior; a Motion Path behavior; a Snap Alignment to Motion behavior; a Spin behavior; a Throw behavior; an Align to Motion behavior; an Attracted To behavior; an Attractor behavior; a Drag behavior, a Drift Attracted To behavior, a Drift Attractor behavior, an Edge Collision behavior, a Gravity behavior; an Orbit Around behavior; a Random Motion behavior; a Repel behavior; a Repel From behavior, a Rotational Drag behavior; a Spring behavior; a Vortex behavior; and a Wind behavior," wherein Anderson discloses a Gravity behavior in paragraph [0051].

7. With regard to claim 9, Anderson discloses "the first parameter_behavior indicates that the value of the first parameter should be averaged over time" (*paragraph [0045]: " The computer can then determine the change in scale of object X61 from the initial image I601 and the scale vector response characteristic, producing an animation sequence as illustrated in images I602, I603."*). One of ordinary skill in the art would recognize that uniform scaling of a characteristic of the object over the given frames as shown in I601-I603 is analogous to averaging that characteristic.

8. With regard to claim 10, Anderson discloses "the first parameter behavior indicates that the value of the first parameter should be changed using a user-specified custom change" (*paragraph [0054]: "The user can push on the bunny's back, not affecting the hopping or leg motion, but causing the bunny to lean forward slightly while it hops."*).

9. With regard to claim 11, Anderson discloses "the first parameter behavior indicates that the value of the first parameter should be negated" (*paragraph [0052]: "...the user decides that the bunny rises too quickly on the first jump. The use can apply a force directed downward, for example by positioning a cursor and pushing down on the bunny's head, in real time during playback. The net of the original force, the gravity force, and the downward force, slows the bunny's rate of rise in the first jump."*). One of ordinary skill in the art would recognize that the downward force behavior "slows the rate of rise" by negating the upward force vector behavior applied to the bunny.

10. With regard to claim 13, Anderson discloses "the first parameter behavior indicates that the value of the first parameter should ramp over time" (*paragraph [0007]: "For example, a ball might accelerate proportional to the directed magnitude of an applied vector (for example, a vector applied by a modeling of physics, or a vector applied by user interaction), while a light source might change in intensity and color according to the direction and magnitude of an applied vector."*).

11. With regard to claim 15, Anderson discloses "the first parameter behavior indicates that the value of the first parameter should change over time according to a specified rate" (*paragraph [0007]: "For example, a ball might accelerate proportional to the directed magnitude of an applied vector (for example, a vector applied by a modeling of physics, or a*

vector applied by user interaction), while a light source might change in intensity and color according to the direction and magnitude of an applied vector. ").

12. With regard to claim 16, Anderson discloses "the first parameter behavior indicates that changes to the value of the first parameter should be executed in reverse order" (*paragraph [0035]: " Alternatively, the vector generation characteristic can generate a vector having magnitude sufficient to reverse the object's velocity component normal to the surface."*).

13. With regard to claim 19, Anderson discloses "the object comprises one from a group consisting of: an image object; a text object; and a particle system," wherein Anderson discloses a particle system (*paragraph [0057]: "The user can place a group of dirt particles where the bunny lands. A dust tool can be activated, for example by selecting an icon having a handle attached to a hoop. The user can sweep the dust tool through the dirt particles--with each sweep, all the particles within the hoop are moved slightly in the direction of the sweep."*).

14. With regard to claim 20, Anderson discloses "the first parameter is associated with the motion behavior applied to the object (*paragraph [0024]: " The user specifies a vector V1 to be applied to object X1, where vector V1 can comprise a magnitude, a direction, and an application time"*), the method further comprising receiving a second input specifying a value for the first parameter, and wherein animating the object comprises changing a value of a parameter of the object according to the first specified parameter behavior and the specified value for the first parameter (*paragraph [0027]: "Similarly, if the user wanted object X1 to accelerate faster, an additional vector could be added to vector V1 ... The computer can then determine all the images in the sequence without the requirement for key frames. The user can specify the motion by*

applying vectors to objects in the images in the sequence, and can edit the resulting animation intuitively by applying additional vectors. ")."

15. With regard to claim 71, Anderson discloses "a method for animating an object using a behavior comprising:

d. outputting an original animation for the object according to a first behavior; concurrently with outputting the object animation, accepting user input <u>that comprises a command for changing a value of a parameter of the first behavior</u> (*paragraph [0052]: "The use can apply a force directed downward, for example by positioning a cursor and pushing down on the bunny's head, in real time during playback."; paragraph [0052]: "The net of the original force, the gravity force, and the downward force, slows the bunny's rate of rise in the first jump."*);

e. and outputting an updated animation for the object according to the <u>changed value of the parameter</u> (*paragraph [0052]: "The net of the original force, the gravity force, and the downward force, slows the bunny's rate of rise in the first jump. The user can apply other forces, in various directions and magnitudes, as the animation plays to produce the desired macro motion across the scene."*).

16. With regard to claim 74, Anderson discloses "the updated animation is performed without interrupting the animation for the object" (*paragraph [0053]: "The user urges the feet downward while the bunny is rising. The hopping motion is not affected, but the bunny's legs move relative to the body in response to the user's input force."*).

17. With regard to claim 75, Anderson discloses "the updated animation reflects the application of the second behavior in real-time" (*paragraph [0052]: "The use can apply a force*

directed downward, for example by positioning a cursor and pushing down on the bunny's head, in <u>*real time during playback*</u>*."*).

18. With regard to claim 77, Anderson discloses "outputting the original animation and outputting the updated animation each comprise rendering each of a plurality of frames sequentially (*paragraph [0061]: "After the user interaction is complete, the graphics iteration 810 can be used to generate the final animation visual sequence. "*).

19. With regard to claim 78, Anderson discloses "outputting the original animation and outputting the updated animation each comprise rendering each of a plurality of frames sequentially by calculating a current frame based on a previous frame" (*paragraph [0060]: "The interface then combines that force with other forces acting on the object, e.g., forces applied by rules such as gravity emulation 803. The combined forces affecting the object are used to determine a new state for the object (e.g., a new position, orientation, or deformation), and the sequence repeated. "*). Figure 8 shows that the object states for previous frames (804) become the object starting state from the next frame (801).

20. **Claim 84 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0039934 to Land et al.**

21. With regard to claim 84, Land et al discloses "in a computer implemented animation system, a method for animating a text object the method comprising:

f. receiving a first input, the first input specifying a first behavior, the first behavior indicating how to change a value of a first parameter of the text object (*112 of Fig. 1A*) over time (*paragraph [0136]: "TIME-BASED PLAYBACK BEHAVIOR--FIGS. 7A-H illustrate programming of time-based object playback behavior, whereby the appearance*

of an object's media data in the playback display is programmed to change automatically over time during playback.");

g. animating the object by changing the value of the first parameter of the text object over time according to the specified behavior; outputting the animated text object; (*paragraph [0139]: " Thereafter when the picture object is playing, the picture's behavior in time is depicted by the series of representations 706."; paragraph [0100]: "The right side of FIG. 1A shows a representation of a playback display 116 which is displaying the text "Hello World" 112 corresponding to the text object 102"; FIG 28A; paragraph [0138]: " It should be noted that in FIGS. 7A-G, time-based playback behaviors are shown being applied to exemplary picture objects; depending on system configuration, each of these behaviors may be applied to any of the following: <u>text</u>... "*); and

h. wherein the first behavior comprises one from a group consisting of:

i. a Crawl Left behavior; a Crawl Right behavior; a Scroll Up behavior; a Scroll Down behavior; a Randomize behavior; a Sequence behavior; a Tracking behavior; and a Type On behavior (*paragraph [0142] (emphasis added): "This playback behavior consists of an increase in size over time until the picture reaches full size, at which time the entrance is complete (note that various other entrance effects, such as fade-in, spin-in, <u>slide-in</u>, etc., may also be provided). "; paragraph [0136] (emphasis added): "...<u>randomized</u> video end-looping" in FIG. 7H. "*).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0036711 to Anderson in view of U.S. Patent No. 5,717,848 to Watanabe et al.

25. With regard to claim 3, Anderson discloses the limitations of parent claim 1; however, Anderson does not expressly disclose "a second input specifying a parameter keyframe indicating the value for the first parameter of the object at a first point in time." Watanabe et al discloses "receiving a second input, the second input specifying a parameter keyframe indicating the value for the first parameter of the object at a first point in time (*lines 64-67 of column 1: "In order to achieve the above objects of the present invention, the position of an object and at least one of the magnitude and direction of the velocity of the object velocity are designated for each key frame.*"), and wherein animating the object comprises changing the value of the first

parameter of the object according to the specified parameter behavior and further according to the specified parameter keyframe" (*lines 28-32 of column 2: "Similarly, for setting the facing direction of an object, both or one of the facing direction of an object and its angular velocity at each key frame is used so that a computer can automatically generate the facing direction of the object between key frames."*).

26. Anderson and Watanabe et al are analogous art because they are from the same field of endeavor: animation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate keyframes as taught by Watanabe et al in the animation framework disclosed by Anderson. The motivation for doing so would have been to set the position of an object at a point in the animation without having to build up a set of input that procedurally defines the animation. Therefore, it would have been obvious to combine Anderson with Watanabe et al to obtain the invention specified in claim 3.

27. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0036711 to Anderson in view of U.S. Patent No. 5,883,639 to Walton et al.**

28. With regard to claim 8, Anderson shows the limitations of parent claim 1, and "the first parameter is associated with the motion behavior applied to the object, and wherein the motion behavior comprises one from a group consisting of: a Crawl Left behavior; a Crawl Right behavior; a Scroll Up behavior; a Scroll Down behavior, a Randomize behavior; a Sequence behavior; a Position behavior; a Rotation behavior; an Opacity behavior, a Scale behavior, a Tracking behavior; and a Type On behavior," wherein Anderson shows a scale behavior (*paragraph [0007]: "An object within a frame has an initial representation, e.g., position,*

orientation, scale, intensity, etc. A vector response characteristic can be associated with the object, where the vector response characteristic specifies how the representation of the object changes in response to applied vectors. "). Anderson does not disclose the object comprising a text object. Walton et al shows an animated object comprising a text object that can have behaviors attached to it (*lines 62-67 of column 12: "Line attributes, drawing modes, shapes and* *<u>text</u>* *may also be selected in accordance with techniques known to those skilled in the art."; Fig. 4b shows behaviors*).

29. Anderson and Walton et al are analogous art because they are from the same field of endeavor: animation. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a text object as taught by Walton et al in the system disclosed by Anderson. The motivation for doing so would have been to enhance the usability and efficiency of the method in the computer implemented animation system so the animator can be more productive, otherwise the letters would have to be created by grouping primitive shapes. Therefore, it would have been obvious to combine Anderson with Walton et al to obtain the `invention specified in claim 8.

30. Claims 12, 14, 17, 18 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0036711 to Anderson in view of U.S. Patent 6,756,984 to Miyagawa.

31. With regard to claims 12, 14 and 18, Anderson shows the limitations of parent claim 1; however, Anderson does not disclose randomizing the first parameter of the object, or the wriggle behavior. Miyagawa discloses, "a parameter behavior that indicates that the value of the first parameter should be randomized"(*lines 58-60 of column 12: "The random color change*

range 69 indicates the color range of an object to be changed from a color designated by the color parameter 68.") and "the parameter should wriggle or oscillate over time" (*lines 60-63 of column 11: "The random generation area 63 indicates a range wherein the position at which objects are to be generated can be changed at random based on the generation positional coordinates 62."*).

32. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a behavior that randomizes a parameter of an object as taught by Miyagawa in the system disclosed by Anderson. The motivation for doing so would have been to emulate natural processes creating phenomena such as "clouds or smoke," as suggested by Miyagawa in line 67 of column 11. Therefore, it would have been obvious to combine Anderson with Miyagawa to obtain the invention specified in claims 12, 14 and 18.

33. With regard to claim 17, Anderson shows the limitations of parent claim 1; however, Anderson does not disclose a behavior indicating a constant parameter. Miyagawa discloses a "first parameter behavior indicates that the value of the first parameter should not change" (*lines 8-10 of column 12: "For objects constantly displayed, the parameter includes a specific value, for example, "0" which represents 'constant'"*).

34. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a behavior that indicates a parameter of an object should not change as taught by Miyagawa in the system disclosed by Anderson. The motivation for doing so would have been to have a concise and consistent way to represent the behavior of mountains and other static objects, which may appear in each frame without changing appearance. Therefore, it would

have been obvious to combine Anderson with Miyagawa to obtain the invention specified in claim 17.

35. With regard to claim 83, Anderson discloses "in a computer-implemented animation system (*Figure 7*), a method for animating an object (*paragraph [0008]: "The computer can then determine the changes in the object's representation in subsequent frames of the animation from the applied vector and the object's vector response characteristic. The combination of all the changes in the representations of objects allows the computer to determine all the frames in the animation."*) the method comprising:

j. receiving a first input, the first input specifying a first behavior, the first behavior indicating how to change a value of a first parameter of the object over time (*paragraph [0008]: "Vectors can be assigned by rule, e.g., gravitational effects, wave motion, and motion boundaries. The user can supply additional vectors to refine the animated motion or behavior"; paragraph [0060]: "The interface acquires a force, e.g., magnitude and direction applied to an input device, indicating a desired change in the object's state 802."; Figure 1 shows an object changing position over time*);

k. animating the object by changing the value of the first parameter of the object over time according to the specified behavior (*paragraph [035]: "An object X3 has a vector V3 applied in the first image I301. Object X3 moves rightward in response to the vector V3, as shown in images I302, I303."*);

l. and outputting the animated object" (*paragraph [061]: "After the user interaction is complete, the graphics iteration 810 can be used to generate the final animation visual sequence."; 811 of Figure 8*).

36. Anderson does not expressly disclose the "Random behavior." As previously shown in the rejection of claim 12, Miyagawa discloses a "Random behavior," and it would have been obvious to combine Anderson with Miyagawa to obtain this feature.

37. **Claims 76 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0036711 to Anderson with regard to U.S. Patent No. 6,266,053 to French et al.**

38. With regard to claims 76 and 79, Anderson discloses "outputting the original animation and outputting the updated animation" as shown in the rejection of parent claim 1 and "rendering a plurality of frames" (*811 of figure 8*); however, Anderson does not disclose "caching the rendered frames" as in claim 76, or "periodically caching a subset of the rendered frames in an interval cache" as in claim 79.

39. French et al discloses "caching the rendered frames" (*lines 45-48 of column 14: "The cache is opened in append mode, then each frame is displayed and cached in sequence, finally the cache is closed and the sequence can be replayed at full speed."*) as in claim 76, and "periodically caching a subset of the rendered frames in an interval cache" (*lines 60-62 of column 13: "There may be frame caches for a particular instant, or extended cached clips, which have a finite duration."*) as in claim 79.

40. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate a cache for frames as taught by French et al in the system disclosed by Anderson. The motivation for doing so would have been to accelerate playback of the frames. Therefore, it would have been obvious to combine Anderson with French et al to obtain the invention specified in claims 76 and 79.

41. **Claims 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0036711 to Anderson in view of U.S. Patent Application Publication No. 2001/0030647 to Sowizral et al.**

42. With regard to claim 80, Anderson discloses the limitations of parent claim 71; however, Anderson does not disclose multi-threaded rendering. Sowizral discloses "outputting the original animation and outputting the updated animation each comprise evaluating, by a first thread, a first subset of frames, and evaluating, by a second thread, a second subset of frames" (*paragraph [0015]: "The render bin may have one or more render threads associated with it, thereby enabling parallel rendering utilizing multiple processors."; paragraph [0014]: "Each structure may be an object that manages selected data from the scene graph, and the plurality of threads may be executable to render one or more frames corresponding to the scene graph."*).

43. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate multiple threads, as taught by Sowizral et al, in the system disclosed by Anderson for evaluating subsets of frames. The motivation for doing so would have been to improve performance. Therefore, it would have been obvious to combine Anderson with Sowizral et al to obtain the invention specified in claim 80.

44. With regard to claim 81, Sowizral does not expressly disclose "the first subset and the second subset of frames each comprise alternate frames of the animation." It would have been obvious for one of ordinary skill in the art at the time of the invention to alternate subsets of frames of the animation. The motivation for doing so would have been to improve performance, as one of ordinary skill in the art would recognize that adjacent subsets of frames would be

displayed sequentially. Therefore, it would have been obvious to further modify the combination of Sowizral et al and Anderson to obtain the invention specified in claim 81.

Response to Arguments

45. Applicant's arguments filed June 26, 2006 have been fully considered but they are not persuasive.

46. With regard to claim 1 and its dependent claims, Applicant argues "Anderson does not disclose, teach, or suggest the claimed "first parameter behavior," as "Anderson does not disclose how to change these values (magnitude, direction, application time) over time." This assertion contradicts the teachings of Anderson. Applicant's attention is directed to paragraph 39 showing a field of "applied vectors" that vary in time (emphasis added): As another example, consider a vector field defined to be directed upward, with <u>magnitude varying in time</u> and space from a positive extreme to a negative extreme. Applicant's attention is further directed to paragraph 38 (emphasis added): "The user can still modify an object's response; for example, the user can apply the gravity vector to all objects except an antigravity spaceship, or can <u>suspend or reduce the gravity vector</u> when animation pertains to motion in low gravity surroundings."

47. With regard to claim 71 and its dependent claims, Applicant argues, "Anderson does not discuss changing a value of a parameter of a behavior (e.g., modifying an existing force) in real time," and thus cannot teach the limitations of claim 71. Applicant's attention is directed to paragraph 52: "The net of the original force, the gravity force, and the downward force, slows the bunny's rate of rise in the first jump." One of ordinary skill in the art would recognize the net force is analogous to a parameter as the net force corresponds to user input that modifies the appearance source image as evidenced by paragraph 52 and the following statement from

paragraph 61: "While the interface is updating objects' state responsive to user input, it can also provide the user a visual feedback of the animation state 810."

48. In response to the arguments regarding newly presented claims 83 and 84, Applicant's attention is directed to the rejection of these claims presented in the preceding paragraphs.

Conclusion

49. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Repko whose telephone number is 571-272-8624. The examiner can normally be reached on Monday through Friday 8:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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